

Appl. No. 10/764250

In the Claims:

Listing of all claims:

- 1 1. (Original) A welding power supply having a start control,
2 comprising:
3 a source of welding power, having at least one power control input, and
4 disposed to provide welding power to an arc;
5 a wire feeder, having a feeder control input, and disposed to supply wire to
6 the arc; and
7 a controller, having a wire feed control output connected to the feeder
8 control input, and further having a power source control output, connected to the power
9 control input, and further having a wire feed delay module, having as an input a user
10 trigger signal, and having as an output the wire feed control output and the power source
11 control output.

- 1 2. (Original) The welding power supply of claim 1, wherein the wire
2 feed delay module provides a wire feed delay of 20 milliseconds.

- 1 3. (Original) The welding power supply of claim 1, wherein the welding
2 power is provided to the arc through the wire feeder.

- 1 4. (Original) The welding power supply of claim 1, wherein the
2 controller further includes a pulse module, which provides the wire feed speed output and the
3 power control output for MIG welding, after the start of the operation of the wire feed delay
4 module.

- 1 5. (Original) The welding power supply of claim 1, wherein the
2 controller further includes a pulse module, which provides the wire feed speed output and the
3 power control output for pulse welding, after the start of the operation of the wire feed delay
4 module.

- 1 6. (Original) The welding power supply of claim 5, wherein the
2 controller further includes a CC module, which provides the wire feed speed output and the

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3 power control output, after the start of the operation of the wire feed delay module, and before
4 the operation of the pulse module.

1 7. (Original) The welding power supply of claim 6, wherein the
2 controller further includes a CV module, which provides the wire feed speed output and the
3 power control output after the operation of the CC module, and before the operation of the pulse
4 module.

1 8. (Original) The welding power supply of claim 4, wherein the
2 controller further includes a run-in module, which provides the wire feed speed output and the
3 power control output after the start of the operation of the delay module, and before the operation
4 of the pulse module.

1 9. (Original) The welding power supply of claim 1, wherein the wire
2 feed delay module includes a feedback circuit input indicative of the presence or absence of an
3 output open circuit, and terminate the operation of the wire feed delay module in response to an
4 open circuit.

1 10. (Original) A welding power supply having a start control,
2 comprising:

3 means for providing welding power to an arc in response to at least one
4 power control input;

5 means for feeding wire to the arc in response to a feeder control input; and
6 means for controlling the means for feeding wire and the means for
7 providing power, connected to the feeder control input and the power control input, and
8 having a means for delaying the feeding of wire and providing output power in response
9 to a user trigger signal.

1 11. (Original) The welding power supply of claim 10, wherein the delay
2 module provides a delay of 20 milliseconds.

1 12. (Original) The welding power supply of claim 10, wherein the
2 welding power is provided to the arc through the means for feeding.

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1 13. (Original) The welding power supply of claim 12, wherein the means
2 for controlling further includes a means for providing MIG control after the start of the operation
3 of the means for delaying.

1 14. (Original) The welding power supply of claim 12, wherein the means
2 for controlling further includes a means for providing pulse control after the start of the operation
3 of the means for delaying.

1 15. (Original) The welding power supply of claim 14, wherein the means
2 for controlling further includes a means for providing CC control after the start of the operation
3 of the means for delaying, and before the operation of the means for providing pulse control.

1 16. (Original) The welding power supply of claim 15, wherein the means
2 for controlling further includes a means for providing CV control after the operation of the means
3 for providing CC control, and before the operation of the means for providing pulse control.

1 17. (Original) The welding power supply of claim 16, wherein the means
2 for controlling further includes a means for providing run-in control after the start of the
3 operation of the means for delaying, and before the operation of the means for providing pulse
4 control.

1 18. (Original) The welding power supply of claim 11, wherein the means
2 for delaying includes means for terminating the operation of the means for delaying in response
3 to an open circuit.

1 19. (Original) A method of providing welding power with a start
2 control, comprising:
3 sensing a user trigger signal indicating a desire to start the welding
4 process;
5 upon the sensing, delaying feeding wire to an arc;
6 upon the sensing, providing power to the arc; and
7 after delaying, feeding wire to the arc.

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1 20. (Original) The method of claim 19, wherein the delay is 20
2 milliseconds.

1 21. (Original) The method of claim 19, wherein the welding power is
2 provided to the arc through the wire feeder.

1 22. (Original) The method of claim 19, including providing pulse power
2 after the start of the delay.

1 23. (Original) The method of claim 22, further providing CC power after
2 the start of the delay and before providing pulse power.

1 24. (Original) The method of claim 23, further providing CV power after
2 providing CC power and before providing pulse power.

1 25. (Original) The method of claim 22, further comprising feeding wire
2 at a run in speed after the start of the delay and before providing pulse power.

1 26. (Original) The method of claim 19, wherein the delay is terminated
2 when an open circuit at the arc is sensed.

1 27. (Original) The method of claim 19, including providing MIG power
2 after the start of the delay.